

```
harmit — -zsh — 80x26

Last login: Sun May 4 14:53:53 on ttys003
harmit@Mac ~ % sudo /usr/libexec/ApplicationFirewall/socketfilterfw --setglobals
tate off
[Password:
harmit@Mac ~ %
```

```
kafka_2.13-3.9.0 — java -Xmx512M -Xms512M -server -XX:+UseG1GC -X...

[2025-05-04 17:54:20,130] INFO zookeeper.snapshot.compression.method = CHECKED (
org.apache.zookeeper.server.persistence.SnapStream)
[2025-05-04 17:54:20,135] INFO Reading snapshot /tmp/zookeeper/version-2/snapsho
t.1ae (org.apache.zookeeper.server.persistence.FileSnap)
[2025-05-04 17:54:20,138] INFO The digest in the snapshot has digest version of
2, with zxid as 0x1ae, and digest value as 302347319105 (org.apache.zookeeper.se
rver.DataTree)
[2025-05-04 17:54:20,149] INFO ZooKeeper audit is disabled. (org.apache.zookeepe
r.audit.ZKAuditProvider)
[2025-05-04 17:54:20,149] INFO 20 txns loaded in 5 ms (org.apache.zookeeper.serv
er.persistence.FileTxnSnapLog)
[2025-05-04 17:54:20,149] INFO Snapshot loaded in 21 ms, highest zxid is 0x1c2,
digest is 305765572428 (org.apache.zookeeper.server.ZKDatabase)
[2025-05-04 17:54:20,149] INFO Snapshotting: 0x1c2 to /tmp/zookeeper/version-2/s
napshot.1c2 (org.apache.zookeeper.server.persistence.FileTxnSnapLog)
[2025-05-04 17:54:20,151] INFO Snapshot taken in 2 ms (org.apache.zookeeper.serv
er.ZooKeeperServer)
[2025-05-04 17:54:20,155] INFO PrepRequestProcessor (sid:0) started, reconfigEna
bled=false (org.apache.zookeeper.server.PrepRequestProcessor)
[2025-05-04 17:54:20,155] INFO zookeeper.request_throttler.shutdownTimeout = 100
00 ms (org.apache.zookeeper.server.RequestThrottler)
[2025-05-04 17:54:20,161] INFO Using checkIntervalMs=60000 maxPerMinute=10000 ma
xNeverUsedIntervalMs=0 (org.apache.zookeeper.server.ContainerManager)
[2025-05-04 17:54:35,846] INFO Creating new log file: log.1c3 (org.apache.zookee
per.server.persistence.FileTxnLog)

```

```
kafka_2.13-3.9.0 — java -Xmx1G -Xms1G -server -XX:+UseG1GC -XX:Max...

[2025-05-04 17:54:36,937] INFO Loaded member MemberMetadata(memberId=consumer-mq
tt-data-group-1-b9797d83-633b-4129-989c-c6b9943dc806, groupInstanceId=None, clie
ntId=consumer-mqtt-data-group-1, clientHost=/192.168.144.42, sessionTimeoutMs=45
000, rebalanceTimeoutMs=300000, supportedProtocols=List(range)) in group mqtt-da
ta-group with generation 102. (kafka.coordinator.group.GroupMetadata$)
[2025-05-04 17:54:36,937] INFO Loaded member MemberMetadata(memberId=consumer-mq
tt-data-group-1-a8373e79-81f8-4fd0-9998-bfa692ec937b, groupInstanceId=None, clie
ntId=consumer-mqtt-data-group-1, clientHost=/192.168.144.42, sessionTimeoutMs=45
000, rebalanceTimeoutMs=300000, supportedProtocols=List(range)) in group mqtt-da
ta-group with generation 102. (kafka.coordinator.group.GroupMetadata$)
[2025-05-04 17:54:36,937] INFO Loaded member MemberMetadata(memberId=consumer-mq
tt-data-group-1-a8373e79-81f8-4fd0-9998-bfa692ec937b, groupInstanceId=None, clie
ntId=consumer-mqtt-data-group-1, clientHost=/192.168.144.42, sessionTimeoutMs=45
000, rebalanceTimeoutMs=300000, supportedProtocols=List(range)) in group mqtt-da
ta-group with generation 103. (kafka.coordinator.group.GroupMetadata$)
[2025-05-04 17:54:36,937] INFO [GroupCoordinator 0]: Loading group metadata for
mqtt-data-group with generation 104 (kafka.coordinator.group.GroupCoordinator)
[2025-05-04 17:54:36,937] INFO [GroupMetadataManager brokerId=0] Finished loadin
g offsets and group metadata from __consumer_offsets-13 in 28 milliseconds for e
poch 0, of which 17 milliseconds was spent in the scheduler. (kafka.coordinator.
group.GroupMetadataManager)
[2025-05-04 17:54:36,938] INFO [GroupMetadataManager brokerId=0] Finished loadin
g offsets and group metadata from __consumer_offsets-28 in 29 milliseconds for e
poch 0, of which 29 milliseconds was spent in the scheduler. (kafka.coordinator.
group.GroupMetadataManager)

```

```
kafka_2.13-3.9.0 — -zsh — 80x26

harmit@Mac ~ % cd ~/Downloads/kafka_2.13-3.9.0
harmit@Mac kafka_2.13-3.9.0 % bin/kafka-topics.sh \
--create \
--topic mqtt_data_topic \
--bootstrap-server 192.168.144.205:9092 \
--partitions 1 \
--replication-factor 3
WARNING: Due to limitations in metric names, topics with a period('.') or under
score('_') could collide. To avoid issues it is best to use either, but not bot
h.
Error while executing topic command : Topic 'mqtt_data_topic' already exists.
[2025-05-04 17:55:06,445] ERROR org.apache.kafka.common.errors.TopicExistsExcept
ion: Topic 'mqtt_data_topic' already exists.
(org.apache.kafka.tools.TopicCommand)
harmit@Mac kafka_2.13-3.9.0 %
```




RTRealTimeSensorDataStreamVersion control

Current File

Project

VisualiseData [kafka-consumer-app]

.idea

.mvn

src

main

java

kafka.consumer.VisualiseData

Config

Model

Service

VisualiseDataApplication

resources

static

advanced-chart.html

basic-chart.html

VisualiseDataApplication.javaStoreDataApplication.javaMakeDecisionApplication.java

1package kafka.consumer.VisualiseData;

2

3> import ...

4

5

6@SpringBootApplication

7public class VisualiseDataApplication {

8

9> public static void main(String[] args) { SpringApplication.run(VisualiseDataApplication.class, args); }

10

11

12

13}

14

RunVisualiseDataApplicationStoreDataApplication

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Parsed and Sent to WebSocket: SensorData {scd_co2=1098.0, scd_temp=26.7, scd_humidity=53.0, dht_temp=27.6, dht_humidity=43.0}

Received Kafka Message: {"scd_co2":1098,"scd_temp":26.7,"scd_humidity":53.0,"dht_temp":27.6,"dht_humidity":43.0}

Parsed and Sent to WebSocket: SensorData {scd_co2=1096.0, scd_temp=26.7, scd_humidity=52.9, dht_temp=27.6, dht_humidity=43.0}

Received Kafka Message: {"scd_co2":1096,"scd_temp":26.7,"scd_humidity":52.9,"dht_temp":27.6,"dht_humidity":43.0}

Parsed and Sent to WebSocket: SensorData {scd_co2=1094.0, scd_temp=26.6, scd_humidity=52.6, dht_temp=27.6, dht_humidity=43.0}

Received Kafka Message: {"scd_co2":1094,"scd_temp":26.6,"scd_humidity":52.6,"dht_temp":27.6,"dht_humidity":43.0}

Parsed and Sent to WebSocket: SensorData {scd_co2=1092.0, scd_temp=26.6, scd_humidity=52.5, dht_temp=27.6, dht_humidity=43.0}

Received Kafka Message: {"scd_co2":1092,"scd_temp":26.6,"scd_humidity":52.5,"dht_temp":27.6,"dht_humidity":43.0}

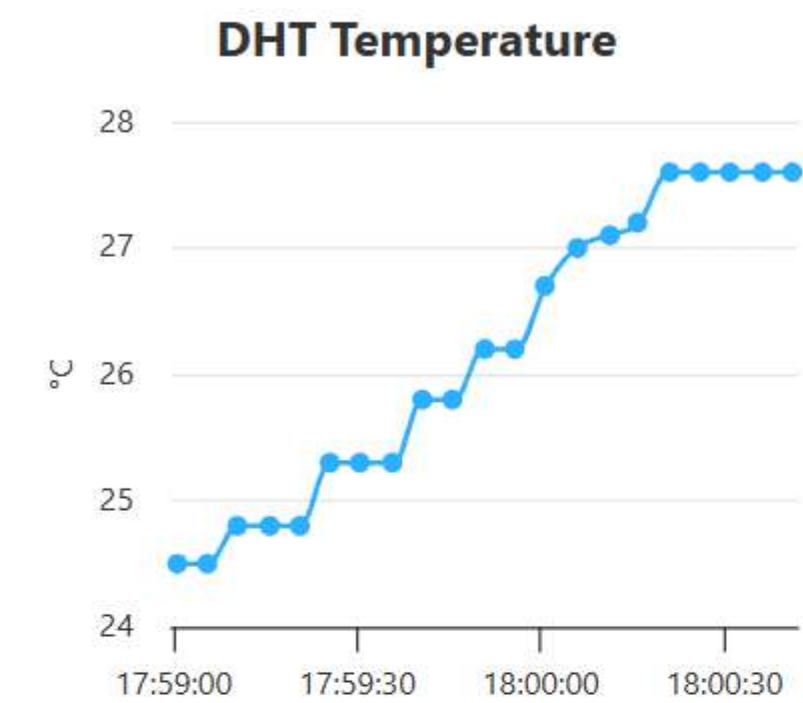
Parsed and Sent to WebSocket: SensorData {scd_co2=1090.0, scd_temp=26.6, scd_humidity=52.4, dht_temp=27.6, dht_humidity=43.0}

Received Kafka Message: {"scd_co2":1090,"scd_temp":26.6,"scd_humidity":52.4,"dht_temp":27.6,"dht_humidity":43.0}

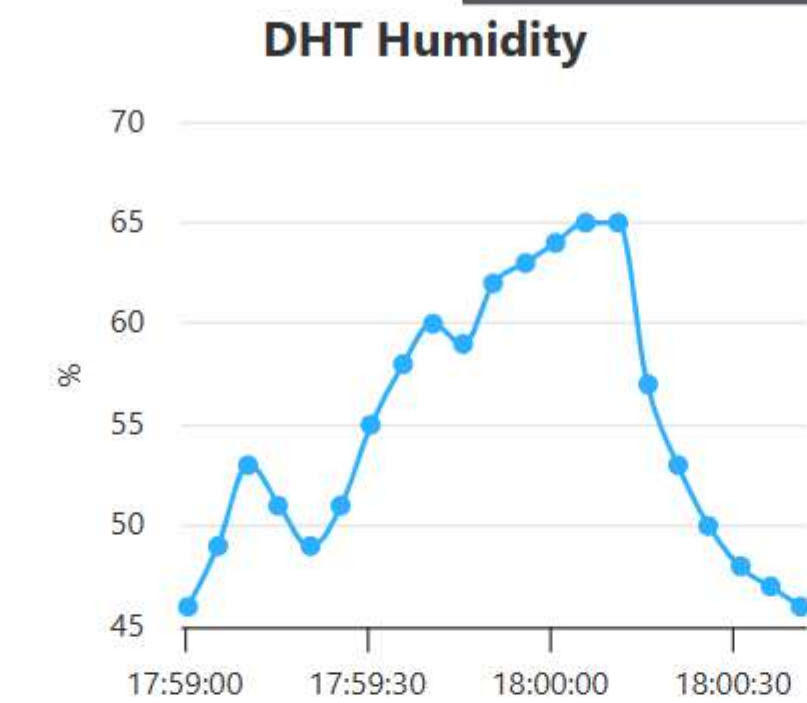
imeSensorDataStream > RealTimeSensorDataStream > KafkaConsumer > Consumer-1 > VisualiseData > src > main > java > kafka > consumer > VisualiseData > VisualiseDataApplication

7:14LFUTF-8Tab*

DHT Temperature (°C)

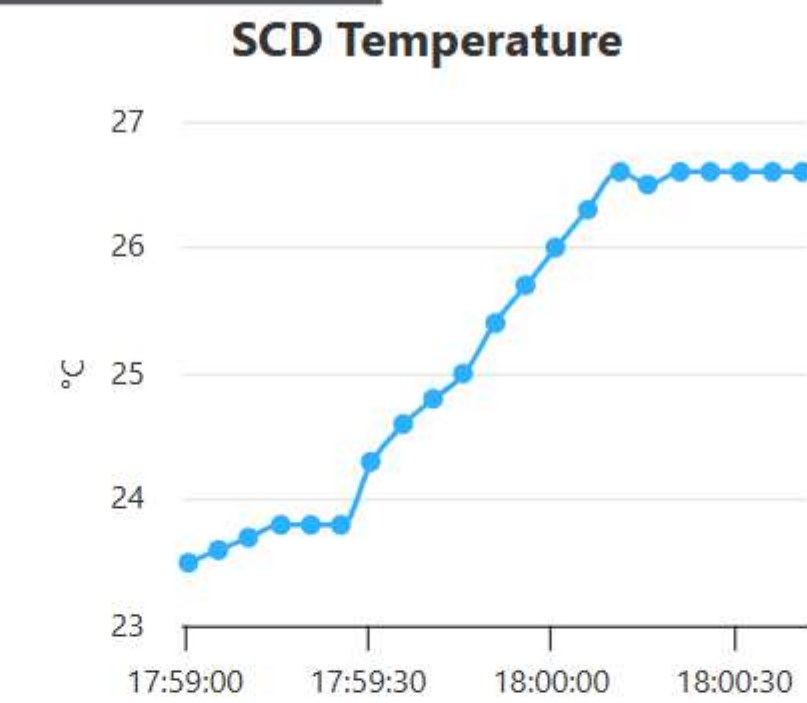


DHT Humidity (%)

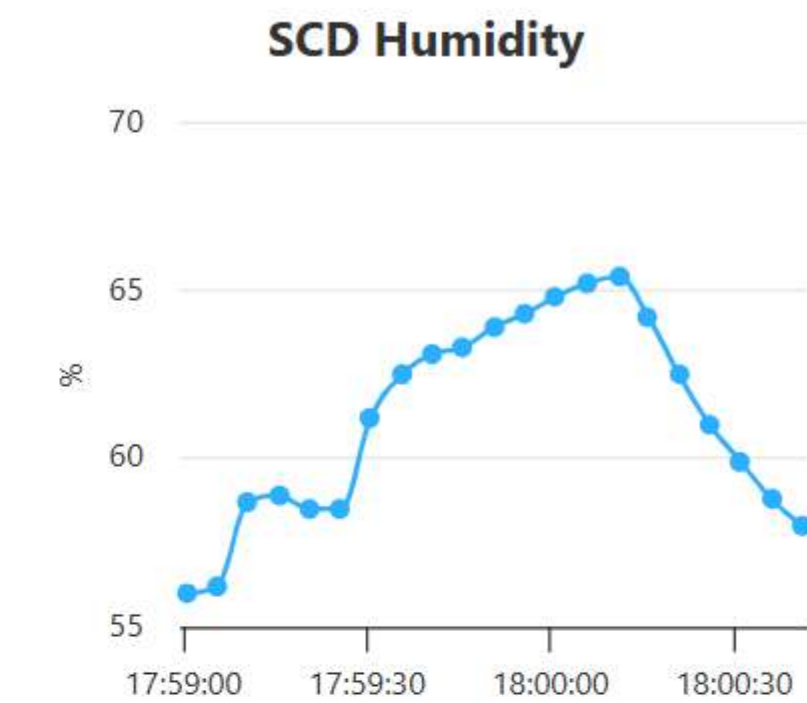


To exit full screen, press and hold Esc

SCD Temperature (°C)



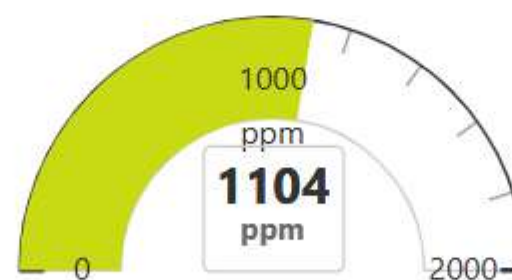
SCD Humidity (%)



SCD CO₂ (ppm)

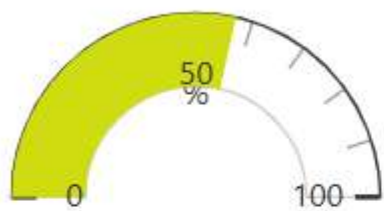
SCD CO₂ (ppm)

SCD CO₂



DHT Humidity Gauge (%)

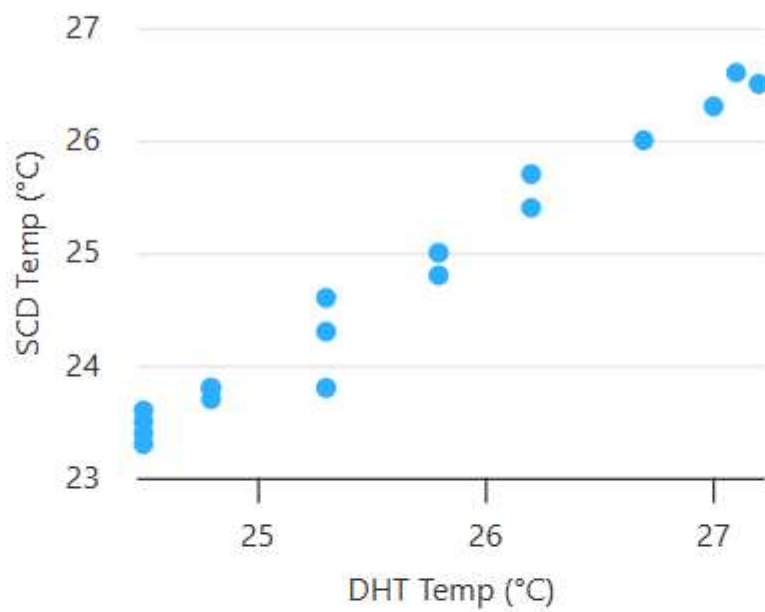
DHT Humidity



57.0 %

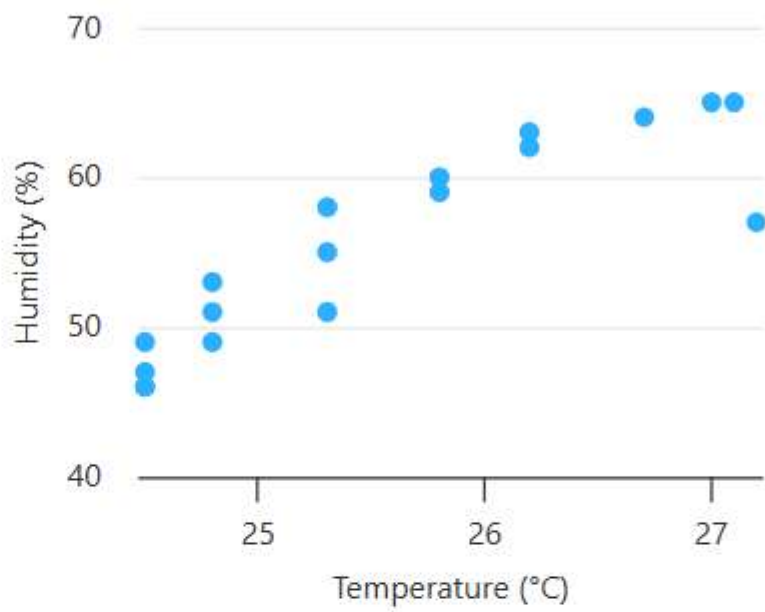
Temperature Comparison (°C)

DHT vs SCD Temp



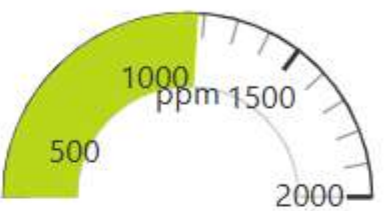
Humidity vs Temperature

Humidity vs Temperature



CO₂ Gauge (ppm)

CO₂ Level



1181 ppm

Temp, Humidity & CO₂ Heatmap

CO ₂	1,053	1,053	1,054	1,300	1,480	1,506	1,560	1,567	1,566	1,535	1,515	1,458	1,381	1,335	1,282	1,246	1,189	1,181
Humidity	47	46	46	49	53	51	49	51	55	58	60	59	62	63	64	65	65	57
Temperature	24.5	24.5	24.5	24.5	24.8	24.8	24.8	25.3	25.3	25.3	25.8	25.8	26.2	26.2	26.7	27	27.1	27.2
	17:58:50	17:58:55	17:59:00	17:59:05	17:59:10	17:59:15	17:59:20	17:59:25	17:59:30	17:59:35	17:59:40	17:59:45	17:59:50	17:59:55	18:00:00	18:00:05	18:00:11	18:00:15



`<> basic-chart.html`

MakeDecisionApplication.java

• —



```

✅ Saved to PostgreSQL: SensorData{id=391, scdCo2=1107.0, scdTemp=26.7, scdHumidity=53.6, dhtTemp=27.6, dhtHumidity=43.0, timestamp=2025-05-04T18:01:20.77024000}
Hibernate: insert into sensor_data (dht_humidity,dht_temp,scd_co2,scd_humidity,scd_temp,timestamp) values (?, ?, ?, ?, ?, ?)
✅ Saved to PostgreSQL: SensorData{id=392, scdCo2=1108.0, scdTemp=26.7, scdHumidity=53.5, dhtTemp=27.6, dhtHumidity=43.0, timestamp=2025-05-04T18:01:26.515166700}
Hibernate: insert into sensor_data (dht_humidity,dht_temp,scd_co2,scd_humidity,scd_temp,timestamp) values (?, ?, ?, ?, ?, ?)
✅ Saved to PostgreSQL: SensorData{id=393, scdCo2=1106.0, scdTemp=26.7, scdHumidity=53.2, dhtTemp=27.6, dhtHumidity=43.0, timestamp=2025-05-04T18:01:31.466766400}
Hibernate: insert into sensor_data (dht_humidity,dht_temp,scd_co2,scd_humidity,scd_temp,timestamp) values (?, ?, ?, ?, ?, ?)
✅ Saved to PostgreSQL: SensorData{id=394, scdCo2=1098.0, scdTemp=26.7, scdHumidity=53.0, dhtTemp=27.6, dhtHumidity=43.0, timestamp=2025-05-04T18:01:36.454689500}
Hibernate: insert into sensor_data (dht_humidity,dht_temp,scd_co2,scd_humidity,scd_temp,timestamp) values (?, ?, ?, ?, ?, ?)
✅ Saved to PostgreSQL: SensorData{id=395, scdCo2=1096.0, scdTemp=26.7, scdHumidity=52.9, dhtTemp=27.6, dhtHumidity=43.0, timestamp=2025-05-04T18:01:41.563706600}
Hibernate: insert into sensor_data (dht_humidity,dht_temp,scd_co2,scd_humidity,scd_temp,timestamp) values (?, ?, ?, ?, ?, ?)
✅ Saved to PostgreSQL: SensorData{id=396, scdCo2=1094.0, scdTemp=26.6, scdHumidity=52.6, dhtTemp=27.6, dhtHumidity=43.0, timestamp=2025-05-04T18:01:46.525952900}

```